[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0164; Directorate Identifier 2017-NE-06-AD]

RIN 2120-AA64

Airworthiness Directives; General Electric Company Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain General Electric Company (GE) CF34-8 model turbofan engines. This proposed AD was prompted by analysis that resulted in the reduction of the life of the affected fan blades. This proposed AD would require inspections of the affected fan blades until their removal. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact General Electric Company, GE-Aviation, Room 285, 1 Neumann Way, Cincinnati, OH 45215, phone: 513-552-3272; fax: 513-552-3329; email: geae.aoc@ge.com. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2017-0164; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Martin Adler, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7157; fax: 781-238-7199; email: martin.adler@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2017-0164; Directorate Identifier 2017-NE-06-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all

comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

Discussion

We learned that GE has determined, based on analysis, that the stresses in the pinholes in the affected fan blade could result in crack initiation at pinhole surfaces beyond 19,000, 19,500, or 25,000 cyles-since-new (CSN), depending on the engine model on which the blade is installed. GE, therefore, has initiated a program of initial and repetitive eddy current inspections (ECIs) and removal of this fan blade before it reaches 41,000 CSN. GE also provided an option to repair the blade which allows for an additional 28,000 cycles before it must be removed. This condition, if not corrected, could result in failure of the fan blade, uncontained blade release, damage to the engine, and damage to the airplane.

Related Service Information under 1 CFR part 51

We reviewed GE Alert Service Bulletins (ASBs) CF34-8C SB 72-A0137 R05, dated June 15, 2016; and CF34-8E SB 72-A0060 R05, dated June 15, 2016. These ASBs provide the procedures necessary for calculating the adjusted CSN for the initial inspection. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

We reviewed GE ASB CF34-8E SB 72-A0115 R03, issued on December 9, 2016, and GE ASB CF34-8C SB 72-A0225 R03, issued on December 9, 2016. The ASB's

describe procedures for repairing fan blade, part number (P/N) 4114T15P02, to P/N 4114T31G01 with the installation of a bushing in the pinholes.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require initial and repetitive ECIs of the affected fan blade. This proposed AD would also require removal or repair of the affected fan blade at a reduced life. A fan blade that has been repaired is eligible for an additional 28,000 cycles in service before it must be removed.

Differences Between this Proposed AD and the Service Information

The determination in this proposed AD of CSN, when CSN is not known, is simpler and clearer than the method indicated in the service information. The service information has several options that may lead to confusion among operators in making this determination.

Costs of Compliance

We estimate that this proposed AD affects 1,986 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Initial ECI Inspection	4 work-hours x $85 per hour = $340	$0	$340	$675,240

Replacement of fan blade (prorated annual cost)	0 work-hours x $85 per hour = $0	$5,460	$5,460	$10,843,560

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

General Electric Company: Docket No. FAA-2017-0164; Directorate Identifier 2017-NE-06-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

None.

(c) Applicability

This AD applies to General Electric Company (GE) CF34-8C1, CF34-8C5, CF34-8C5A1, CF34-8C5B1, CF34-8C5A2, CF34-8C5A3, CF34-8E2, CF34-8E2A1,

CF34-8E5, CF34-8E5A1, CF34-8E5A2, CF34-8E6 and CF34-8E6A1 engines, including engines marked on the engine data plate as CF34-8C5B1/B, CF34-8C5/B, CF34-8C5A1/B, CF34-8C5A2/B, CF34-8C5/M, CF34-8C5A1/M, CF34-8C5A2/M, CF34-8C5A3/B, or CF34-8C5B1/M, with a fan blade, part number (P/N) 4114T15P02 or P/N 4114T31G01, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by analysis that resulted in the reduction of the life of the affected fan blades. We are issuing this AD to prevent failure of the fan blade, uncontained blade release, damage to the engine, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Eddy Current Inspections (ECIs)

(1) For CF34-8C1, CF34-8C5B1, CF34-8C5B1/B and CF34-8E2 engines with fan blade, P/N 4114T15P02, installed:

(i) Perform an initial ECI of the fan blade pinhole prior to the fan blade accumulating 25,000 cycles-since-new (CSN); and

(ii) Repeat this inspection within every 3,000 cycles thereafter.

(2) For CF34-8C5, CF34-8C5/B, CF34-8C5A1, CF34-8C5A1/B, CF34-8C5A2, CF34-8C5A2/B, CF34-8E2A1, CF34-8E5, CF34-8E5A1, CF34-8E6 and CF34-8E6A1 engines with fan blade, P/N 4114T15P02, installed:

(i) Perform an initial ECI of the fan blade pinhole prior to the fan blade accumulating 19,500 CSN; and

(ii) Repeat this inspection within every 3,000 cycles thereafter, until the fan blade has accumulated 25,000 CSN, then repeat the inspection every 1,500 cycles thereafter.

(3) For CF34-8C5/M, CF34-8C5A1/M, CF34-8C5A2/M, CF34-8C5A3, CF34-8C5A3/B, CF34-8C5B1/M, and CF34-8E5A2 engines with fan blade, P/N 4114T15P02, installed:

(i) Perform an initial ECI of the fan blade pinhole prior to the fan blade accumulating 19,000 CSN; and

(ii) Repeat this inspection within every 3,000 cycles thereafter, until the fan blade has accumulated 25,000 CSN, then repeat the inspection every 1,500 cycles thereafter.

(4) For any affected engine with a fan blade, P/N 4114T15P02, installed where the CSN of the fan blade is unknown on the effective date of this AD:

(i) Assume the blade has accumulated 25,000 CSN on the effective date of this AD; and

(ii) Inspect the blade prior to installation or within 500 cycles after the effective date of this AD, whichever is earlier.

(5) If a fan blade is moved from one affected engine model to another affected model after the initial ECI:

(i) Perform an additional ECI of the blade prior to installation in the new model; and

(ii) Repeat this inspection based on the intervals of the new engine installation, as specified in paragraph (g) of this AD.

(6) If a fan blade, P/N 4114T15P02, has been used on more than one engine model prior to the initial ECI, use Appendix A of GE Alert Service Bulletin (ASB) CF34-8C SB 72-A0137 R05, dated June 15, 2016, or Appendix A of GE ASB CF34-8E SB 72-A0060 R05, dated June 15, 2016, to calculate the new cycle limit for the initial inspection of that fan blade.

(h) Fan Blade Removal

(1) For any affected engine with a fan blade, P/N 4114T15P02, installed, remove the blade from service or repair to P/N 4114T31G01 prior to the blade accumulating 41,000 CSN.

(2) For any affected engine with a fan blade, P/N 4114T31G01, installed, remove the blade from service prior to the blade accumulating 28,000 cycles since installation of the pinhole bushing.

(i) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(j) Related Information

(1) For more information about this AD, contact Martin Adler, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7157; fax: 781-238-7199; email: martin.adler@faa.gov.

(2) GE ASBs: CF34-8C SB 72-A0137 R05, dated June 15, 2016; CF34-8E SB 72-A0060 R05, dated June 15, 2016; CF34-8E SB 72A0115 R03, issued December 9, 2016; and CF34-8C ASB 72-A0225 R03, issued December 9, 2016; can be obtained from GE using the contact information in paragraph (j)(3) of this AD.

(3) For service information identified in this proposed AD, contact General Electric Company, GE-Aviation, Room 285, 1 Neumann Way, Cincinnati, OH 45215, phone: 513-552-3272; fax: 513-552-3329; email: geae.aoc@ge.com.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on April 5, 2017.

Carlos A. Pestana,
Acting Manager, Engine & Propeller Directorate,
Aircraft Certification Service.
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